

Remarks

The Applicant wishes to thank the Examiner for the courteous and helpful personal interview of January 26, 2004, during which proposed amendments to the claims and the cited references were discussed in detail.

In the personal interview the Examiner indicated, as shown in the interview summary, that the proposed amendments seemed to define the claimed invention over the prior art rejection of record. However the Examiner indicated that because of a new issue (the narrow opening in the rear face) a further search would be necessary and if further prosecution is desired an RCE would need to be filed. It was pointed out to the Examiner that a socket having a narrow opening in a rear face was a part of the method Claims 12 and 13, however, the Examiner indicated that since Claims 12 and 13 are method claims the classification of the connector (apparatus) would not have been considered.

It is respectfully submitted that since Claims 12 and 13 define a method of assembling a socket having a narrow opening in a rear face, a search based on a socket of that type may have been required and the addition of such feature in a claimed socket may not add any new issues to the claims as a whole.

In view of the above discussion, it is respectfully requested that the finality of the present Office Action be removed, and the amended claims be further examined without the filing of an RCE.

The drawings of Figs. 7 (A-C) and Figs. 12 (A-C) are amended as the figure number indicators in the drawings, as filed, are incorrect. Figs. 7(A-C) should read Figs. 12 (A-C) and Figs. 12 (A-C) should read Figs. 7 (A-C). Solely the figure number indicators are amended. As indicated at page 11 of the specification Figs. 7 (A-C) should be drawings of the first embodiment (one shutter), and Figs. 12 (A-C) should be drawings of the second embodiment (a pair of shutters).

The marked-up drawing sheets show the correct figure number indicators for the drawings in red. Approval of the Amendment to the drawings is respectfully requested.

Claims 1 and 3-13 are amended in order to more clearly define the claimed invention.

It is believed that this response is fully responsive to the Office Action dated November 4, 2003. The Applicant respectfully submits that no new matter is added.

The present invention is a socket for a connector having a cavity for allowing a plug to be inserted therein from a front face, a protuberance provided within the cavity, a through hole defined substantially at the center of the protuberance, for allowing a plug extremity to be inserted from an outer end thereof,

10/083,509

a connector element disposed at an inner end of the through hole, opposite thereto, and a narrow opening defined by the socket in a rear face. An opening is defined in the wall of the through hole by a cut off part of the wall, and a shutter and an elastic member are inserted into the opening. The through hole is blocked up with the shutter by an urging force of the elastic member and the through hole is released from a blocked state upon the insertion of the plug. The shutter and the elastic member are insertable into the opening through the narrow opening in the rear face of the socket.

Claims 1-13 are rejected under 35 USC §103(a) as being unpatentable over Admitted Prior Art (APA) in view of Bowden, Jr. (U.S. Patent No. 4,379,607). Reconsideration and removal of this rejection is respectfully requested.

It is alleged in the Office Action that the APA socket for an electrical connector comprises a cavity for allowing a plug to be inserted therein, as shown in Figs. 17-18; that Bowden, Jr. discloses a shutter mechanism (108) for blocking a through hole of a socket (50) which is released from a blocked state by insertion of a plug (72); and that it would have been obvious for one of ordinary skill in the art to provide a shutter biased by an elastic member for blocking the through hole of the APA socket in view of the teachings of Bowden, Jr. and that the various arrangements of the

10/083,509

shutter in relation to the socket housing is deemed an obvious location of part and socket design.

A significant advantage of the present socket, which is described throughout the present specification and in particular at page 14, lines 3-21, is the narrow opening (30) in the rear face (14) of the socket, which allows the shutter (50) to be assembled in the socket from the rear face in comparison with the APA sockets which require "rooms", on the inlet side (front face) of the socket, whereat the shutters are inserted. In comparison with the APA, such feature enables a reduction in the size of the cavity for allowing the plug to be inserted, as the "rooms" on the inlet side (front face) of the socket, which are formed as openings in the wall of the cavity, are not necessary. Since the shutter of the present invention only blocks the through hole through which the plug extremity is inserted (as opposed to the cavity in the APA), the shutter can be much smaller than the shutters of the APA which block the cavity into which the plug is inserted, as shown in Figs. 17 (A-B) and Figs. 18 (A-B). In the present claimed invention the opening, into which the shutter is inserted, is defined in the wall of the through hole (see Fig. 6E), and the shutter and elastic member are insertable into the through hole through a narrow opening in the rear face of the socket.

10/083,509

Claims 1, 5, and 12-13 are amended to include the narrow opening (30) of the socket through which the shutter and elastic member are insertable.

It is respectfully submitted that the APA and Bowden Jr., individually or in combination, do not disclose or suggest the claimed invention, and that the claimed invention is not an obvious location of parts, as a shutter which blocks a cavity is not merely relocated.

Regarding Claim 4, it is respectfully submitted that neither reference discloses a groove or a step into which an inclined extremity of the shutter makes ingress or butts against, respectively, as shown in Fig. 6E.

Regarding Claim 9, it is respectfully submitted that neither reference discloses a protrusion piece, having elasticity, provided on the tip end of one inclined face of a shutter, for contacting the inclined face of the other shutter, as shown in Fig. 15 B'.

Regarding Claims 12 and 13, which include a socket having a narrow opening in a rear face and a cover body to be fixed in the narrow opening, it is respectfully submitted that none of the references disclose or suggest such features of a socket.

In view of the amendments to Claims 1 and 2-13, and the above remarks, removal of this rejection is respectfully requested.

It is believed that Claims 1-13 are now in condition for allowance. Allowance of Claims 1-13 is respectfully requested.

10/083,509

If there are any issues of a minor nature remaining, the Examiner is urged to contact Applicant's attorney, the undersigned, at Area Code (202) 659-2930.

In the event that any fees are due in connection with this paper, please charge our Deposit Account No. 01-2340.

Respectfully submitted,

ARMSTRONG, KRATZ, QUINTOS,  
HANSON & BROOKS, LLP



William G. Kratz, Jr.  
Reg. No. 22,631

Atty. Docket No. 020226  
Suite 1000  
1725 K Street, N.W.  
Washington, D.C. 20006  
Tel: (202) 659-2930  
Fax: (202) 887-0357